

# Oak Ridge National Laboratory - An Overview for Prospective Partners

*Presented by*

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OAK RIDGE NATIONAL LABORATORY  
U. S. DEPARTMENT OF ENERGY

# Oak Ridge National Laboratory

*Managed by UT-Battelle for the U.S. Department of Energy*

*Staff:*

➔ **4200 total; 1500 scientists and engineers**

*Budget:*

➔ **\$600 million (operating); 80% Department of Energy, 20% work for other agencies**

*Replacement  
cost of buildings:*

➔ **\$7 billion**

*Total land area:*

➔ **58 square miles (5 x 12 miles)**

*Guests:*

➔ **3000 annually; one quarter from industry**

*Visitors:*

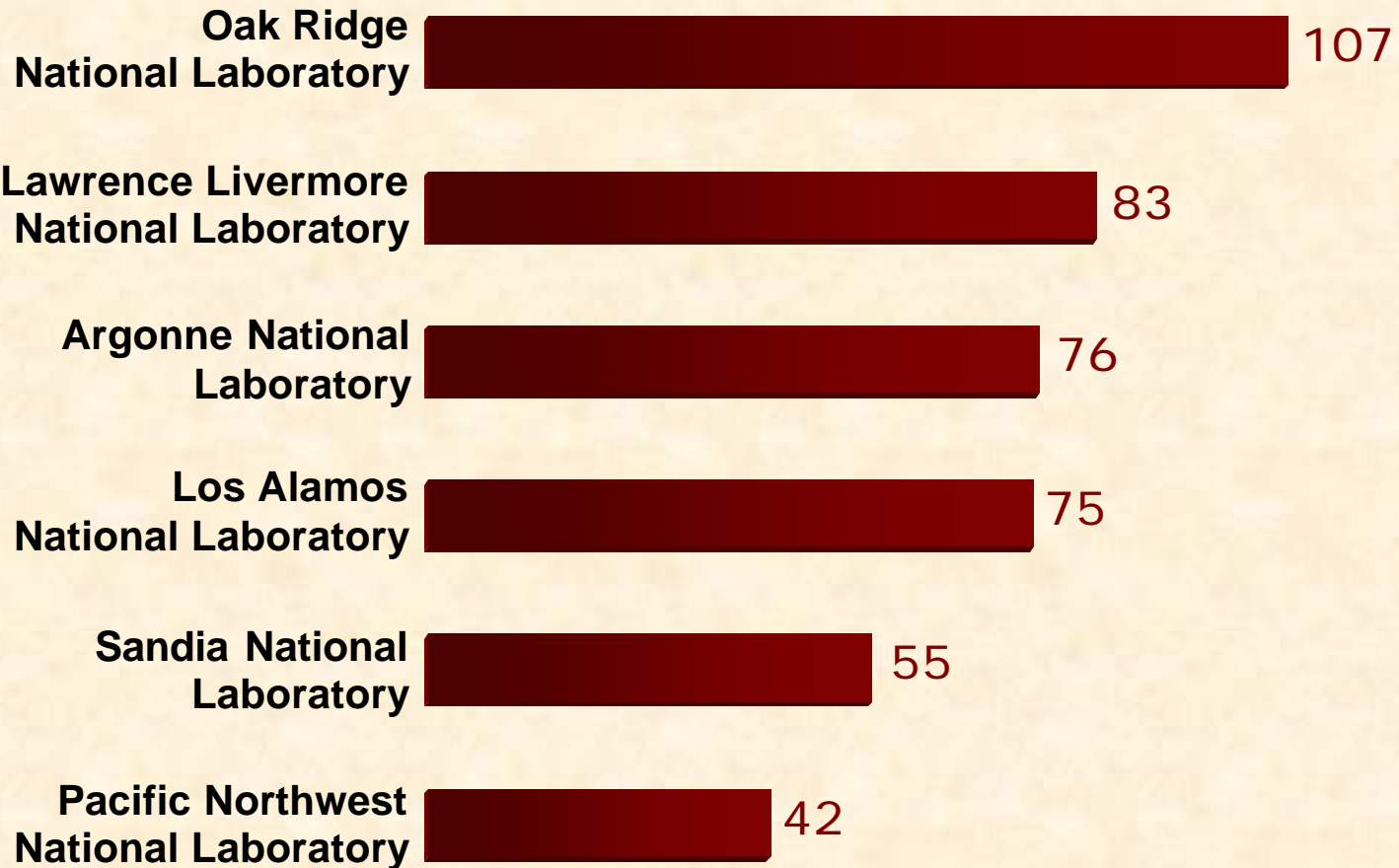
➔ **30,000 annually, plus 10,000 pre-college students**

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# Top R&D 100 Award Winners DOE National Laboratories



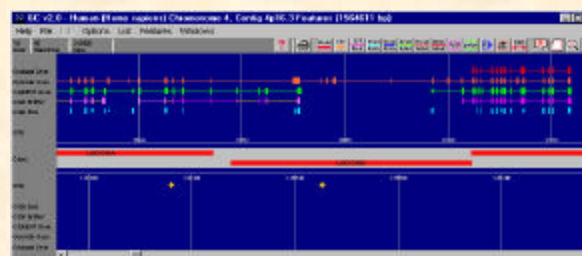
# ORNL assists businesses by

- **Participating in collaborative research projects of mutual interest**
- **Exchanging personnel**
- **Providing access to government user facilities and . . .**
- **Providing technical assistance**

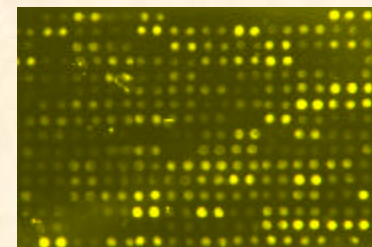
# Complex Biological Systems

ORNL will be a center of excellence for understanding complex biological systems.

- **Center for Biological Sciences**
  - **Joint Institute for Biological Sciences**
- **Structural biology**
- **Functional genomics and proteomics**
- **Computational biology and bioinformatics**



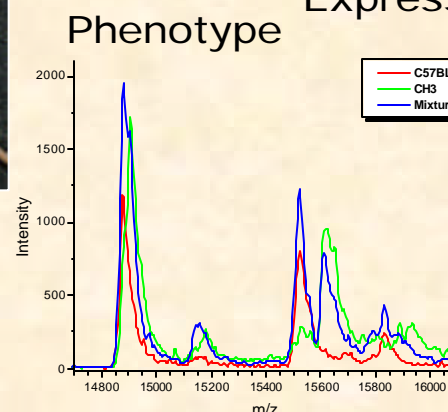
Sequence



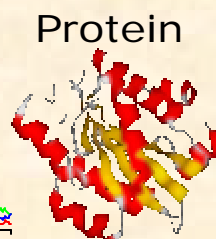
Expression Pattern



Model organism



Phenotype



Protein

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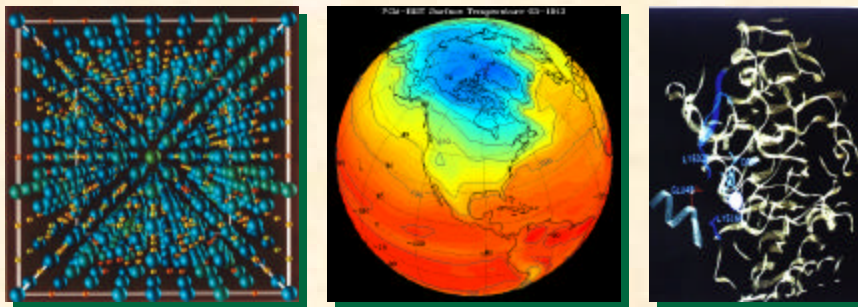
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# High-Performance Computing

ORNL will become a premier unclassified computational sciences laboratory for DOE.

- Upgrade terascale computing platform and infrastructure
- Expand expertise in modeling, simulation, numerical methods, and future architectures



- Improve connectivity to broad scientific community
- Drive scientific discovery and technological innovations
- Build Joint Institute for Computational Sciences

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# Energy and Environmental Systems of the Future

ORNL will sustain its leadership of the science and technology needed to support DOE's energy mission.

- **Carbon management focus**

- Energy efficiency R&D
- Distributed generation
- Bioenergy/bioproducts
- Carbon sequestration R&D



# Advanced Materials

ORNL will sustain its position as a leader in advanced materials science and technology.

- **Nanoscale sciences, engineering, and technology**
- **Advanced Materials Characterization Laboratory**
- **Extraordinary tools for materials characterization**
- **Expanded focus on soft materials**



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# ORNL Has 19 User Facilities

- **Advanced Propulsion Technology Center**
- **Bioprocessing Research Facility**
- **Buildings Technology Center**
- **Californium User Facility**
- **Center for Structural Molecular Biology**
- **Computational Center for Industrial Innovation**
- **High Flux Isotope Reactor Facility**
- **High Temperature Materials Laboratory**
- **Holifield Radioactive Ion Beam Facility**

# ORNL Has 19 User Facilities *(continued)*

- **Metals Processing Laboratory User Center**
- **Metrology Research and Development Laboratory**
- **Mouse Genetics Research Facility**
- **National Environmental Research Park**
- **Oak Ridge Electron Linear Accelerator**
- **Physical Properties Research Facility**
- **Shared Research Equipment Program**
- **Surface Modification and Characterization Research**
- **National Transportation Research Center**
- **Spallation Neutron Source (Under Construction)**

# More information on the Oak Ridge National Laboratory is available at

*<http://www.ornl.gov>*

**For information on partnerships with ORNL including Cooperative Research and Development Agreements, Technology Licenses, User Facility Agreements, Personnel Exchanges, etc., please contact:**

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